

# PILOT SPEECH RECOGNITION DEVELOPMENT

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## Executive summary

<b>Title of the call:</b>	Speech Recognition System improvement
<b>Scope:</b>	The study performed within SESAR PJ.10-W2-S96 (2019-2023) provided a set of possible paths to improve the pilot and controller speech recognition models. This call targets some of the identified improvements, i.e. the language and acoustic models, provision of the first partial outcome, and identification of events.
<b>Place of Delivery:</b>	Offices of CRIDA – 4 <sup>th</sup> Floor, Building 7. C/ de Campezo 1, 28022 – Madrid.
<b>Maximum Price:</b>	45.000 € (FORTY-FIVE THOUSAND EUROS), taxes not included
<b>Form of payment:</b>	The first part of the payment (20.000€, TWENTY THOUSAND EUROS) will be done against reception and approval of the initial work description before September 15 <sup>th</sup> of 2023. The remaining part (25.000€, TWENTY-FIVE THOUSAND EUROS) will be invoiced at the end of the work, in 2024, against the final deliverable and after acceptance of all activities and deliverables described in the Project Plan.
<b>Price review:</b>	No change in prices shall be accepted.
<b>Duration of works:</b>	The project will be performed in 2023-24 on a date to be agreed between CRIDA and EML Speech Technology GmbH, EML, formerly known as “European Media Laboratory” according to EML project plan to be presented as first deliverable.
<b>Extensions:</b>	N/A
<b>Adjudication Method:</b>	This contract is awarded through a direct assignment procedure without publicity and without competition. This procedure is justified by continuity with the provider of the current prototype speech recognition module and associated models, given they are based in a proprietary technology which is the basis for CRIDA speech recognition system, and which replacement would imply a substantial rework of previous activities. EML shall submit one single proposal in electronic format to the CRIDA’s project coordinator not later than the <b>17th July 2023</b> . CRIDA will officially communicate the acceptance or rejection of the proposal in <b>three working days</b> after the reception of the requested documentation.
<b>Variations:</b>	No variations shall be accepted

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# 1 Main characteristics of the Technical Specifications Document

## 1.1 Background

CRIDA together with ENAIRE (former AENA) has been working over the last 10+ years on a system named VOICE, able to detect Air Traffic Controllers' events through real ATC (Air Traffic Control) Voice Communications. This VOICE prototype was developed under the framework of DNA 344/2009 AENA elicitation, supplied by Unisys. For this system a key module is the Automated Speech Recognition system, which receives the audio input providing its associated transcription as an output. This transcription feeds the event detection algorithm, based on keyword patterns; thereby the accuracy of the transcription is a determining factor for the event detection rate obtained by the overall system.

It is to be highlighted that, given that not all words have the same importance in terms of events recognition, CRIDA interest is always focused on Event Detection Rate, and Callsign Detection Rate. Thereby in all Calls this fact is present, underlining the fact that the speech recognition is a mean to event recognition and thus the system must be oriented and evaluated in this framework: as an example, improving word detection rate by reducing the event (or callsign) detection rate is an undesired behaviour (i.e., word detection rate can be improved by detecting simpler words at the cost of missing others which are keywords for semantic analysis and subsequent event detection).

Knowing the work developed in this speech recognition by CRIDA, in 2020 ENAIRE decided to investigate the use of speech recognition for callsign illumination in the controller working position. This investigation takes place within the framework of SESAR Wave 2 and implied the creation of pilot model between CRIDA and EML Speech Technology GmbH (formerly European Media Laboratory GmbH), EML, the company that has provided the speech recognition engine to CRIDA in the past years (2010-2020) and supported the investigation performed in this field.

The controller models developed in 2020 obtained a Word Correct Rate, WCR, of 90,6 and a Word Error Rate, WER, of 10,5. The pilot model developed in 2020 provided a WCR of 78 and WER of 25. Translated in callsign identification of 87% and 49% respectively. The event identification in the controller mode ascended to 89%. The latency in the models was of 0.86s with a first partial result in 2.93s. A new pilot model was developed in 2021 but the amount and quality of the transcriptions was not high enough to obtain a tangible improvement in the pilot model.

Neural Networks were used in a limited approach in 2020 for event recognition providing a recognition rate of 95% with event error rated below 6%.

The callsign illumination use case was thoroughly studied in 2021 and 2022. This study resulted in a joint article from ENAIRE, EML and CRIDA published in 2023 at Aerospace MDPI. The study concluded a set of improvement objectives to be developed, that are to be partially tackled in a priority way, and which are described in the present Call for Tender.



## 1.2 Objectives

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The high-level objectives of the project described in the present Request for Proposal are to:

- Generate an improved language and acoustic models for the pilot operational environment. This environment will use the model developed in 2020. The model will use a set of transcriptions delivered by CRIDA. The pilot model is expected to reach a Callsign Detection Rate, CDR of at 65%, with a desired recognition rate in average of 80% in WCR and 20% in WER.
- Support CRIDA to improve the streaming service continuing with the task performed in previous contracts. The tests performed in 2022 indicate a first partial result after 3 s, which highly impacts on callsign recognition because the callsign is at the beginning of the phrase. The latency of the events is lower, being established in 0.85s. The final objective in this call of getting a first partial result of 2s or lower for 80% of the recordings. Different possible approaches will be discussed to achieve this objective.
- Improve the callsign recognition through the analysis of companies phonetization. An analysis of the callsign identifications indicated that pilots from specific countries have lower recognition rates. A review of the phonetization used with regards to the companies from these countries could improve the associated rates. EML and CRIDA will work together to address this topic.
- Explore the improvement in Event Detection Rate, EDR, using Neural Networks, NN, initialized in 2020. The EDR in the controller's model is expected to be improved a 5% (relative) in at least 10 event types when compared with the detection rates without NN. Event detection will be expanded to detect the type of event and the arguments linked to such event. To support this task CRIDA will deliver transcriptions tagged with the events of interest.
- EML and CRIDA will jointly discuss how to optimize resources to obtain the maximum amount and quality of transcriptions. Previous work with pilot transcriptions has demonstrated that it is easier to perform this task if the complete dialogue between pilot and controller is transcribed jointly, but this approach difficulties the creation of two different models (controller and pilot).
- Train and support CRIDA about the possible settings regarding LM and AC models which could enhance recognition latency and/or recognition rates.
- EML Transcription Workplace installed at CRIDA premises will remain to be used during this year (2023/2024) to support controllers and pilot utterances transcriptions.

Additionally to the high-level objectives mentioned, there are some objectives that will be covered if sufficient controller recordings are available<sup>1</sup>:

- Generate an improved controller model using transcription provided by CRIDA.
- Improve the audio segmentation by speakers, in order to obtain different transcriptions (if different speakers appear in an audio) and to shorten the audios.

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<sup>1</sup> For this call old recordings already corrected will be used to tag the events. During the review of these recording files with several speakers and/or noises will be identified. No specific search for this type of recordings will be performed during this call.



The model will be trained with a set of transcriptions, with several speakers, delivered by CRIDA.

This feature implies an expected quantitative goal of increasing the WCR by a 5% (relative) and decrease the WER by a 5% (relative), for those audios with different speakers. Again, this is expected to be reflected in an improvement of at least half the amount in Event Detection Rate (i.e., 2.5% relative).

### **1.3 Scope**

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The scope of this call is the service provision in speech recognition to enhance existing legacy systems in CRIDA as expressed in the objectives above, in the context of the activities to be developed by CRIDA in accordance to the Specific Agreement –*Agreement for the collaboration in R&D tasks related to the Air Traffic Management*– belonging to the Framework Agreement between ENAIRE and CRIDA.

### **1.4 Place of delivery**

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The delivery of the documentation and models can be done digitally, and the models will be deployed by CRIDA according to EML instructions in the premises in Las Mercedes Business Park, Building 7, 4<sup>th</sup> floor, c/ Campezo 1, Madrid (Spain).

No face-to-face meetings are planned in the scope of this contract. However, they can be hold if considered necessary by both parts. It is specifically mentioned that any travel costs from EML staff in the scope of this project will be covered by the overall budget included in the offer, at no extra cost for CRIDA.

Progress meetings will be done through web or telephone conferences at least once per quarter.

### **1.5 Maximum price and form of payment**

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The fixed price for the execution of the activities is 45.000€ (excluding taxes). All project-related costs are included in this price, including travel and accommodation expenses and those software licenses which are necessary for the execution of the described work (transcription, specifically). The license for the EML Transcription Server and the EML Transcription Workplace to be provided will only be used by CRIDA for research, development and demo purposes, being specifically excluded any commercial use with this license.

The scheduled payments (excluding taxes) are as follows:

- The first part of the payment TWENTY THOUSAND EUROS (20.000 €) will be done against reception and approval of the project work plan, before 15<sup>th</sup> September 2023. This document will detail the expected work breakdown structure, planning, deliverables and contents proposed by EML to address the scope of the call.
- The remaining part TWENTY-FIVE THOUSAND EUROS (25.000€) will be invoiced at the end of the work, against the final deliverable, and after acceptance of all the call deliverables and activities by CRIDA.

CRIDA and EML will agree the scope of each phase of the project before the initiation of the work. Tasks related to the project will be agreed through the present Request for Proposal and the subsequent tender.

CRIDA reserves the right to request the return of payments for which EML doesn't meet their commitment with the previously agreed tasks and deliveries.

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## 1.6 Price review

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No change in prices shall be accepted.

## 1.7 Execution timeframe

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The project will take place between 2023 and 2024. It will finish in 2024, on a date to be agreed between CRIDA and EML according to EML proposal (work plan).

## 1.8 Extensions

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No extensions are considered.

# 2 Adjudication process

In accordance to the CRIDA's contracting process, for cooperative R&D+innovation activities, this contract is awarded through a direct assignment procedure without publicity and without competition.

This procedure is justified by the continuity of the project VOICE, resulting from the contract DNA 344/2009, given that EML participated as a third-party "Speech recognition server and models" provider.

This relationship continued through the following direct contracts:

- CRIDA GEST-PPT-ASR-EVOLUTION-11.12 from 2012 to 2014 achieving satisfying results and significant system improvements;
- GEST-PPT-ASR-EXPANSION-10.14, in 2015, where the foundations for the class-based feature were analysed, tested and planned;
- CRIDA GEST-PPT-ASR CLASS-11.15, in 2016, which focused in the deployment of the class-based model.
- CRIDA GEST-PPT-REC VOZ-12.2016, in 2017, which focused in the evolution of the EML Transcription Server into a streaming based architecture.
- CRIDA GEST-PPT-ASR-IMPROVEMENT-12.2017, in 2018, which focused in the improvement of the EML Transcription Server with new technologies.
- CRIDA GEST-PPT-ASR-EVOLUTION-12.2018, in 2019, which focused in the improvement of the Voice Activity Detector technology.
- CRIDA GEST-PPT-ASR-EVENT-12.2019, in 2020, where a pilot model was initially created.
- CRIDA GEST-PPT-PILOT-06.21, in 2021 where improvement in pilot and controllers model was performed.

This document will be sent exclusively to EML, which should submit a single proposal in electronic format to the CRIDA's project coordinator not later than the 17th of July 2023.

CRIDA will officially communicate the acceptance or rejection of the proposal within three working days after the reception of the requested documentation.

### 3 Description of requirements

As described in the Introduction, the objectives of this contract are to achieve tangible improvements, which are detailed in the current section, in the Word Correct Rate (WCR), Event Detection Rate (EDR) and Callsign Detection Rates (CDR) of the system. For this, several low-level activities are detailed. It is highlighted the fact that, this year, CRIDA is more interested in improvements in CDR in the pilot model and reduction of the initial latency for partial recognition.

The main technical features to be improved/deployed to achieve such benefit are the following:

- i) Generate an updated model for pilot communications. The goal is to improve the aircraft callsign identification, so a CDR of at least 65% with a WCR of at least 80% and less than 20% in WER in average is desired.
- ii) Jointly explore different alternatives to minimize latency during streaming services. The objective is reaching a callsign identification latency of 2 seconds or lower for 80% of the recordings and getting close values of the indicators for the offline models, up to 5% (relative) degradation in WCR and WER.
- iii) Jointly review the phonetization currently used for the companies callsigns and other key words such as waypoints.
- iv) It is explicitly mentioned that EML shall identify all potential activities that bring the desired benefit to the system. In particular, will let CRIDA know any other option that they consider useful to achieve the ultimate goal of improving Event and Callsign detection rates. Joint efforts will be developed to study these options, taking into account not only the event type but also the arguments that conform the event.

They are detailed in the requirements below, which also contain some detailed activities in coherence with the objectives expressed in section 1.2.

Optionally if sufficient recordings (to be agreed between EML and CRIDA) are available:

- i) Development and investigation in the use of NLU (Natural Language Understanding) techniques using NNs, started in 2020, to identify callsigns and events. Desired goal is to improve EDR at least 5% relative in ten types of events.
- ii) Generate a new model for controller communications. Being this model further developed the aim is to obtain a 2,5% of relative improvement in WCR and WER. As the number of controller hours to be provided this year is low, exploration with different voice recognition techniques would be an asset to obtain this objective.
- iii) Improve the approach started in 2018 to obtain different transcriptions for the same audio if different speakers are identified. The desired transcription output is one sentence per speaker. The desired outcome of this task is increasing the WCR (of these audios) in a 5% (relative) and decreasing the WER (of these audios) in a 5% (relative).

### 3.1 Detailed requirements

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According to the described situation, the following set of requirements is defined for this project, defining the framework, possibilities, and results to be provided.

**REQ 1:** EML will provide a project plan describing the approach to be followed to reach the goals, with tasks, dates, and responsible for each task. This document constitutes the initial deliverable and will be delivered before 30<sup>th</sup> July 2023.

**REQ 2:** Project plan will include a schedule fitted to deliver the first version of the new models by first week of April 2024, in order to allow CRIDA to do their tests and be able to correct some errors detected during these tests.

**REQ 3:** CRIDA will provide to EML the outcome of these tests before the 30<sup>th</sup> of April 2024. EML and CRIDA will review them jointly and agree on the improvements to be implemented in the models for the final delivery before 31<sup>st</sup> May 2024.

**REQ 4:** As a final deliverable, accompanying the final models, EML will provide an activity report, including an evaluation with the new values of the indicators (WCR, WER, substitutions, deletions, insertions...) per each new model, and guidelines for future improvements of the system, proposing research and evolution lines for a possible extension (to be agreed at that time).

**REQ 5:** Both EML and CRIDA will agree on the initial Word Correct Rate, WCR, Word Error Rate, WER, Event Detection Rate, EDR, and Callsign Detection Rate, CDR, resulting from the previous stage that will be the baseline for this Call.

**REQ 6:** CRIDA will provide EML with 200h of pilot-controller communication audios. EML will rate the automated transcription of these audios according to a level of confidence score. Optionally, EML will rate these audios also with a SNR or similar metric that complements the level of confidence score.

**REQ 7:** CRIDA will provide two sets of pilot transcriptions and one from controller. The first pilot transcription set will be a reviewed version of the transcriptions provided in 2021 to ensure a higher quality. The second pilot transcription and the controller sets will consist of new transcriptions obtained from the new 200h of pilot-controller communication provided in this call.

**REQ 8:** The EML Transcription and Annotation Workplace will be used to perform the transcriptions, for which EML will provide user support. EML will include an initial estimation of the expected hours to be transcribed in the Tender.

**REQ 9:** CRIDA will deliver a maximum of 15 (net) and a minimum of 10 new transcribed hours and will keep traceability of the effort (hours) performed. EML will perform different adaptation experiments to identify which confidence score (and SNR if developed) range provides better results.

**REQ 10:** If necessary, CRIDA can try to provide additional number of non-transcribed hours. EML will identify the amount of hours necessary, if it is the case. CRIDA cannot confirm the availability of non-transcribed hours in the new environment, so they must always be considered as an optional way forward, instead of a blocking point.

**REQ 11:** EML will provide a language model based in pilot transcribed audios. A CDR of at least 65% with a WCR of at least 80% and less than 20% in WER in average is desired for this model. This will constitute a deliverable. Even though the WCR of the pilot model is proposed to get just 2 points better, the actual benefits are expected to be in the crucial aspect for the whole recognition, which is the callsign detection. An increase of 16% in the CDR is desired for the pilot model.

**REQ 12:** EML will provide a language model based in controller transcribed audios. This will constitute a deliverable.

**REQ 13:** The delivered models should be the class-based model (Callsigns, Waypoints, unknown) and the non-class-based model.

**REQ 14:** Optionally, if there are sufficient recordings (to be agreed between EML and CRIDA), the overall model will incorporate refined segmentation methods.

**REQ 15:** The overall model will provide a transcription per each speaker identified in an audio file. Both transcriptions should be provided in the same xml file. A unique identification shall be provided per speaker.

**REQ 16:** To explore jointly an improvement of the EDR, EML and CRIDA will continue the tag of events during the controller transcription process. For this action the EML Transcription and Annotation Workplace will be used. It should be possible to enlarge the event recognition catalogue using phraseology patterns in case there are no recordings containing identified controller events (from ICAO's document 4444).

**REQ 17:** To explore jointly an improvement in CDR, EML and CRIDA will work jointly in the phonetization of the airline companies with lower detection rates identified during PJ.10-W2-S96.

**REQ 18:** EML will support CRIDA in the improvement of the streaming functionality with the objective to obtain a latency of 2 seconds or less in callsign recognition with a detection degradation lower than 5%. This year focus will be in speeding up the return of partial results, that influence on an early callsign detection.

**REQ 19:** EML will provide an updated curve with language processing speed versus error rate, and information on how to fine-tune the parameters of the EML Transcription server to select the most appropriate balance when working in real time. Training related regarding the parameters fine-tuning can be requested by CRIDA.

**REQ 20:** The EML Transcription Workplace that was deployed locally at CRIDA's premises for research, development and demo purposes will be maintained. The licenses needed to use it are to be included in the fixed price of this activity.

**REQ 21:** As operational knowledge is considered important for best understanding of the system, CRIDA will provide the operational information and assessment agreed between both parts that can benefit performance improvements of the speech recognition server. Operational knowledge teleconferences will be held at the beginning of the project per EML request.

**REQ 22:** Assessment of the model enhancement and tools to allow the fine tuning will be provided by EML to CRIDA so that minor adjustments to the model, can be performed by CRIDA staff if necessary, to test concepts (even using tools to be able to deal with the models, i.e., Language Model Workspace). However, for testing and usage the formal deliverables will be used, unless agreed otherwise between both parties.

**REQ 23:** All the recordings and information provided in the scope of this project will be under a confidentiality agreement as stated in this document. The recordings and provided information are only to be used for the purpose of this project and are not allowed to be shared with third parties unless specifically authorized by CRIDA. None of the provided recordings or information will include personal data. CRIDA keeps all the rights on the recordings provided. At the end of the project, EML will have to delete from their records and systems all recordings and provide to CRIDA a written confirmation. Any other use will need a specific and written agreement between the two parties.

## 4 Offer

### 4.1 Documentation to present for the tender

The tender should contain the following three documents in separate envelopes/emails:

- **Technical documentation:** Description of the scope and technical content of each phase of the project. Description of how to address the different phases of the project, the proposed list of deliverables and the proposed planning, number of iterations and strategy.
- **Financial documentation:** Economic offer.
- **A certificate stating that the company has the administrative documentation necessary to work with the Public Sector:** The company should meet the following requirements:
  - have full operating capacity;
  - are not affected by the prohibitions of contracting with the Public Sector set down in Article 60.1 of Spanish TRLCSP (or its German equivalent);
  - have economic, financial and technical or professional solvency following the terms established in this tender;
  - if necessary, have the specific professional or business qualification to perform the activity or service stated in the tender. The rules contained in Chapter II title II book I of the TRLCSP (or its German equivalent) will be applicable to this end.

The administrative documentation shall be provided prior to the signature of the contract once it has been awarded.

The tenderer shall submit one single proposal in **electronic format** to the CRIDA's project coordinator not later than the **17th July 2023**.

## 5 Project monitoring

### 5.1 Communications

EML will name a Coordinator or Delegate that will be responsible for managing the activities described in this specification. They will be responsible for the quality of the results as well as the communication and coordination with the Project manager or his delegate.

### 5.2 Quality assurance

The deliveries shall be made by EML according to the following conditions:

- The Coordinator or Delegate shall as a general rule deliver an electronic copy of each document.
- All of the Project documents must be either in Spanish or English.
- The editing of the documents shall be done using a Word processor that produces documents that can be read by Microsoft Word 2016 or 365.

- EML will assign to each document a unique code and, generally, EML will send the documents in electronic format, and CRIDA will proceed with the official approval by the same means.
- EML deliverables of the speech recognition server, including models, shall be compatible with current VOICE prototype, and will be accompanied by deployment instructions and phone support, if required.

### ***5.3 Procedure for deviations***

A deviation is defined as the failure to meet the requirements that have been planned and identified. Any deviation must be approved by CRIDA once they have been informed of the technical, economic and timing impact that it will incur.

The deviations must be the last resort to be used by EML. They will be limited in scope and may not be used to permanently alter the requirements. Their purpose will be to allow the work to continue short term.

## **6 Project extension**

No extensions are considered.

## **7 Specific clauses**

### ***7.1 Conditions relating to staff***

EML agrees to carry out the project only with adequately skilled EML staff and material means. The management, organization and control of EML personnel shall be undertaken by EML and is EMLs sole responsibility. EML will not assign or involve, in any case, third party staff to this project and activities.

CRIDA is an autonomous entity.

With regards to EML personnel EML agrees to the following:

- Carry out the work with a team of staff suitable for maximum performance and quality of the results. Once the activity described in this specification is completed or if the work is resolved before the end of the term agreed, the actions established by current legislation and the correct collective agreements shall be applied to the personnel assigned to the project. Under no circumstances shall the personnel assigned to the project be hired by CRIDA nor will CRIDA be subrogated to labour relations between EML and their employees. CRIDA is unrelated to and in no way responsible for the labour relations between EML and its employees or any responsibilities that may result from this relationship. EML expressly agrees that these responsibilities will be at their expense.
- The personnel from EML must submit to the safety and internal regulations that govern the workplace where they are.
- Comply with all laws applicable to the employees regarding labour, employment, social security and health and safety.

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## 7.2 Intellectual property and confidentiality clause

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By signing the Contract derived from this Specification, EML agrees to the following conditions:

- CRIDA has defined, specified and developed different projects within its sphere of competence and functions. As a result of this all of the content of the projects and their development is CRIDA's property as well as all the rights associated with it. The possible exception is commercial software or intellectual property that belongs to EML. CRIDA retains all property rights related to the project despite the stage of the project or new developments and additions including changes and/or variations that occur during the execution of the Contract.
- As the holder and proprietor of all of the rights attached to the project CRIDA authorizes EML to have access to the information, recordings and documents necessary for the completion of the objectives listed in the Contract. The access to these documents or recordings is confidential and may only be used for this project. EML agrees to keep all information and/or material related to the project, the tasks or the activities related to this project confidential. This information may not be disseminated or shared verbally, written or by any other method to third parties.
- These conditions are valid for the entire term of the Contract. The confidentiality conditions will remain in force indefinitely (unless permission is given) after the Contract end. No information and/or documents from the project may be revealed or used and must be treated confidential using reasonable measures to protect it.
- CRIDA reserves the right to collect the documents created up to that date by a simple written request to EML. At the end of the Contract CRIDA will require that EML delivers all of the material used in the project, namely but not exclusively, all of the documentation, information and results, and also all of the archived documents on paper, tape, disc or any other method of archiving that EML uses.
- Due to CRIDA's rights to the Project EML may not modify, adjust and/or create work derived from or based on the documents generated for the Project without written consent from CRIDA. This refers to either a part of or the entire documentation.
- The failure on the part of EML to meet any of the stipulations mentioned in this section will lead to the cancelation of the Contract.
- EML original software, including the EML Transcription Server included in the current VOICE prototype, the EML Transcription Workplace, and any software property of EML which is used in this project, will remain property of EML, keeping CRIDA only usage rights over it (specifically, CRIDA will not have property or commercial rights on EML software).
- A general improvement in the recognition system detection rates, caused for any external or internal factor, doesn't mean to end the agreement, that will keep valid until the end of the project plan defined by EML, even though the initial objectives are achieved (unless a specific agreement between both parts, or cancelation from CRIDA for other reasons, as stated in Cancelation section, are put in place).



CRIDA reserves the right to exercise all of the legal actions necessary to defend their interests due to EML's failure to meet the above mentioned. This will be in accordance to all of the applicable laws.

These general conditions shall be governed and construed in accordance with the laws and handled by the courts at the registered office of the defending party.

### **7.3 Health and safety clauses**

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EML is only allowed to assign EML staff to perform the activities of the project. EML agrees to comply with all the obligations imposed by German employment laws, including health and workplace security, for its staff. In line with the regulation in chapter §6.7 EML is not allowed to employ third party staff or subcontract activities to third parties within this project.

**First.** - EML agrees to comply with all of the obligations imposed on the employer by Spanish Law 31/1995, of the 8<sup>th</sup> of November (or its German equivalent) on the Health and Safety in the workplace as well as all applicable standards and laws in this area.

EML must comply with all current applicable Spanish or German legislation as well as the conditions established by CRIDA in this Specification and Contract relating to all use of contracts, subcontracts as well as use of temporary employment agencies and freelancers for the execution of this Project.

CRIDA is not responsible in any case for the labour conditions of the EML personnel, whether directly or indirectly, as well as responsibilities of any kind that may arise thereof.

**Second.** - When external companies or entities make use of a workplace belonging to CRIDA, EML agrees to comply with, and be responsible for the compliance of any companies and freelancers that provide services to them, the following obligations:

- Perform all actions necessary in order to guarantee efficient protection which avoids any type of risk that may exist for personnel and property belonging CRIDA or any other company that work in the same workplace as well as users of the centre including avoiding actions that may cause risks by interacting with previous or concurrent actions.
- Perform all actions necessary to eliminate or control any inherent or derivative risks originating from the activity of EML or contractors, subcontractors or freelancers that work for them in the same workplace.
- EML must inform and educate the personnel dependent on them of the risks specific to their activities as well as the risks derived from the concurrence of business activities. They must be informed of the instructions that they receive from CRIDA on this matter and of the methods of prevention and protection ensuring that the information is passed along to the employees of its contractors, subcontractors, workers from temporary employment agencies and freelancers that work for them in CRIDA's workplace facility.

EML making use of CRIDA's facility must:

- Inform CRIDA and all businesses and freelancers that may be affected whether there are legal relationships between them or not of all of the specific initial risks as well as those that have arisen or will arise. This also includes those that may be aggravated or modified by their business activities as well as the protection and prevention measures that must be taken to minimize and/or avoid them;

This information which will be provided in written form when the activities of EML generates risks qualified as grave or very grave should be adequate and will be provided before the start of the activities, when there is a change in concurrent activities that is relevant in terms of prevention of when there has been an emergency.

- Inform CRIDA and other companies and freelancers present at the workplace of any accidents that occur as a result of the risks of the concurrent activities.
- Inform CRIDA promptly of any incident or accident that has occurred or situation that reveals deterioration in the security conditions of third parties. This information shall be immediate if the risk is serious and imminent and whenever there is an emergency situation that could impact the health or safety of workers belonging to companies that are present in CRIDA's workplace.
- Comply with all of the applicable instructions delivered by CRIDA related to the coordination of business activities.
- Provide any information that may be considered relevant to the prevention and protection related to health and safety.
- Assign the necessary prevention resources at the workplace no matter what method of organization these have. When the risks are aggravated or modified during the development process or activity due to concurrence of the diverse actions that develop successively or simultaneously and that require the correct application of work methods and when they perform activities or processes considered as dangerous or especially hazardous these resources must also be provided.
- Participate in as many meetings or other actions required for Health and Safety matters.

## ***7.4 Personal data protection***

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Within the project no personal data of which CRIDA is responsible to process will be provided to or made accessible to EML. EML commits itself to inform its entire staff about the prohibition to access any media containing personal data, or to the resources contained in the information system.

EML agrees to maintain in absolute confidentiality all the personal data that may accidentally visualize or know during the execution of the project. This obligation is extended to all the people under EML responsibility that will take part in the execution of the project, being EML responsible to inform them about the confidentiality obligation and the need to maintain it even after the project has ended or the relationship with CRIDA has ceased. EML shall be able, under CRIDA express requirement, to accredit the fulfilment of the data protection measures adopted.

In case of an incident during the execution of the contract resulting in an accidental access to personal data by EML personnel, EML will inform CRIDA's data protection responsible using the address [pdp@crida.es](mailto:pdp@crida.es) and CRIDA's project coordinator with the utmost diligence and in less than 48h.

EML is required to comply completely with the E.U. Regulation 2016/679 of the European Parliament of Protection of Personal Data and all the regulations necessary to implement it in the context of this project with what is stipulated by the Law and in this Specification (or its German equivalent).

## 7.5 Responsibilities

CRIDA is not responsible for any compensation or legal action resulting from accidents or improper actions of EML personnel at CRIDA’s premises. Specifically, in terms of the recordings provided, CRIDA will not be responsible for any unauthorized distribution of recordings or operational information delivered to EML to be used in the scope of this project.

## 7.6 Cancellation

CRIDA reserves the right to cancel the Contract, in which case once the deliverables and intermediate results that have been completed or can be demonstrated on-going by EML will be invoiced to CRIDA proportionally to the amount of work completed.

## 7.7 Subcontracting

Partial or total subcontracting of the described work is not permitted unless express permission is granted.

## 7.8 Delay and suspension

CRIDA reserves the right to delay or suspend the project at any time. In this case, CRIDA commits to communicate this decision 15 days before the official suspension. CRIDA reserves the right to request the return of those advanced payments for which EML doesn’t justify the on-going work.

# 8 Variations of the offer

Variations of the offer that do not meet the stipulations listed in this specification shall not be accepted although proposed improvements to the conditions will be valued.

# 9 Evaluation Criteria

The evaluation of the offers will have two phases: technical evaluation on the content and capacity to perform them, and the financial offer. Following the applicable transparency procedures for all public entities, the evaluation of the technical and economic offer will be performed by different people.

Next are detailed the evaluation criteria for the economic and technical offer.

### **Phase 1: Technical evaluation**

The aspects that will be taken into account to score the technical offer are:

Concept	Requirement number(s)	Maximum Score
Structure and clarity of the tender	General	10
Management	1, 2, 3, 4, 5, 20, 21, 22 & 23	30



Concept	Requirement number(s)	Maximum Score
Language model	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 & 17	30
Streaming	18 & 19	30
	<b>Total</b>	100

Table 1: Technical criteria.

CRIDA A.I.E. may consider disqualifying the offer if the total score is below 60 points or the score of one of the concept is zero.

### **Phase 2: Economic evaluation**

To be under economic evaluation an offer must have scored above 60 points in the technical evaluation.

The Economic evaluation will be equal to 100 points if the price offered is the one stated in this tender or lower. If the price is higher, the offer will not be retained.

### **Phase 3: Global evaluation**

If both, technical offer and economic offer are above 60 points the contract will be accepted.

## 10 Budget

The maximum price of this call for tender is of 45.000€ (FORTY-FIVE THOUSAND EUROS) taxes not included.

### 10.1 Price review

Given the characteristics of this work, no change in prices shall be accepted once the contract has been signed.

Madrid, June 30<sup>th</sup>, 2023

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